

27. ³ The support according to any one of claims 20-26, wherein said support further comprises said target nucleic acid bound to said complementary nucleic acid, wherein reflectance from said light-reflecting surface is altered in comparison to reflectance by said light-reflecting surface in the absence of said bound target nucleic acid.

Remarks:

The new Specification submitted herewith is the same Specification filed with U.S. Application No. 09/425,072. However, Applicant has amended the Cross-Reference to Related Patent Applications section on Page 1 of the Specification and has written new claims which are now included as Page 46. The new Specification contains all of these amended pages and therefore marked-up pages have not been included.

The present invention relates to supports for use in detecting the binding of a target nucleic acid to its complement. The surfaces comprise an optically smooth, flat light-reflecting surface to which the complementary nucleic acid is bound. Applicants respectfully request consideration of the claims in view of the foregoing amendments and the following remarks.

Applicants have cancelled the claims as filed, and added new claims 20-26. These claims represent subject matter cancelled from U.S. Patent Application No. 09/425,072. In that application, the Examiner had rejected subject matter corresponding to the newly entered claims as allegedly being anticipated by U.S. Patent No. 4,849,330 ("the '330 patent). Applicants provide the following remarks in response to that rejection.

The instant claims describe a surface comprising an optically smooth, flat light-reflecting surface to which the complementary nucleic acid is bound. The Examiner essentially contends that the surfaces described in the '330 patent are described as being smooth and desirably flat, and that all surfaces will inherently reflect light.

Applicants respectfully point out that a photoresponsive surface as described in the '330 patent must absorb light in order to function. Specifically, a photoresponsive surface functions by absorbing light photons and, if the photons have a sufficient quantum energy, ejecting electrons from the surface. Thus, the skilled artisan would seek a surface that does not reflect light, rather than utilizing the claimed support, which must reflect light.

Moreover, for a photoresponsive surface to inherently reflect light, that reflective property must be necessarily present. The mere fact that such a characteristic may occur is not sufficient to establish inherency. *See, e.g.*, MPEP §2112. Light reflectance is not an inherent property of photoresponsive surfaces. For example, the '330 patent indicates that such a surface may be silicon, and may comprise a silicon oxide coating. *See, e.g.*, '330 patent in column 2, lines 65-68, and column 3, lines 59-62. Such surfaces are often used as antireflective coatings. In this regard, the Examiner's attention is directed to U.S. Patents 6,248,606 (Exhibit A) and 6,162,588 (Exhibit B) provided herewith for the examiner's convenience. Applicants respectfully request that the Examiner provide extrinsic evidence making it clear that the missing descriptive matter, *i.e.*, that a photoresponsive surface as described in the '330 patent inherently reflects light, is necessarily present.

Applicant believes that the present application is now in condition for allowance. Favorable consideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date October 18, 2001

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